

**REMARKS**

The Examiner's final Office Action has been received and its contents carefully noted. Applicant would like to thank the Examiner for the consideration given to the present application and for indicating the allowability of claims 3, 4, 7, 10, 29-31, 33-36, 38, 39, 41, 42, 44-47, 49 and 50, and the allowability of claims 8, 9, 19, 21 and 22 if rewritten in independent form including all of the limitations of the base claims and any intervening claims. Applicant respectfully contends that this response is timely and fully responsive to the Office Action.

Claims 1-10 and 14-51 were pending in the present application prior to the above amendment, of which claims 1, 2, 3, 17, 25, 29, 33, 38, 41, 44, 49 and 52 are independent. By the above amendment, claims 14-16, 24, 28, 32, 37, 40, 43, 48 and 51 are amended to address informal matters and not for reasons related to patentability. It is contended that no issue of new matter is presented by the above amendment. Accordingly, claims 1-10 and 14-51 remain pending, and are believed to be in condition for allowance for at least the following reasons.

**A. Information Disclosure Statement**

In the Information Disclosure Statement filed November 30, 2001, the Examiner refused to consider the related U.S. patent applications cited therein on the basis that Applicant failed to provide copies of each related application or indicate that there are allowed claims pertinent to the subject invention. It is respectfully contended, however, that there is no such standard for considering items submitted in an IDS, and thus, the November 30, 2001 IDS is believed to be in full compliance with the content requirements of 37 CFR §1.98. In particular, 37 CFR §1.98(a)(2)(iii) merely requires that the submission of any pending U.S. application(s) include "the application specification including the claims, and any drawings of the application." Inasmuch as the Applicant provided copies of the claims, specification and drawings for each related application during the filing of the November 30, 2001 IDS, it is respectfully requested that the Examiner provide an initialed copy of the November 30, 2001 Form PTO 1449 indicating his consideration of the related applications.

**B. 35 U.S.C. §112, 1st Paragraph Rejection**

Claims 14-16, 24, 28, 32, 37, 40, 43, 48 and 51 stand rejected under 35 U.S.C. §112, 1st paragraph as allegedly nonenabling. Applicant respectfully traverses this rejection for at least the following reasons.

It is contended that the lack of a description of the claimed electronic devices in the specification does not rise to the level of non-enablement insofar as any such description would have been well known by one possessing ordinary skill in the art. In this regard, it has been held that a patent need not teach, and preferably omits, what is well known in the art. *In re Buchner*, 929 F.2d 660, 661, 18 USPQ2d 1331, 1332 (Fed. Cir. 1991).

In the present situation, each rejected claim requires an electronic device be selected from an *In re Markush* group consisting of a video camera, a digital camera, a goggle type display, a car navigation system, a personal computer, a mobile computer, a portable telephone, an electronic book, and an image playback device using a recording medium. Notwithstanding the claimed display device to which is structurally incorporated into each device, the conventional nature of each of the aforementioned devices is such that no undue experimentation would have been required to arrive at the missing information, and thus, are believed to be enabling at the time the invention was filed. Accordingly, inasmuch as the rejected claims are believed to be enabling to one of ordinary skill in the art, reconsideration of the claims and withdrawal of the rejection are respectfully solicited.

**C. 35 U.S.C. §112, 2<sup>nd</sup> Paragraph Rejection**

Claims 14-16, 24, 28, 32, 37, 40, 43, 48 and 51 stand rejected under 35 U.S.C. §112, 2<sup>nd</sup> paragraph as allegedly indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention.

Please note that §2173.05(f) of the M.P.E.P. states that “a claim which makes reference to a preceding claim to define a limitation is an acceptable claim construction which should not necessarily be rejected as improper or confusing under 35 U.S.C. §112, second paragraph.” In this regard, it is contended that the rejected claims are believed to be definite to one of ordinary skill inasmuch they refer to a preceding claim to define a limitation. Notably, each rejected claim

is directed to an electronic display device that includes an electroluminescence display device defined by their respective independent claims.

Accordingly, inasmuch as the rejected claims are believed to define subject matter that would be considered definite by one of ordinary skill in the art, reconsideration of the claims and withdrawal of the rejection are respectfully solicited.

**D. 35 U.S.C. §112, 4th Paragraph Rejection**

Claims 4, 9, 14, 19, 24 and 29 stand rejected under 35 U.S.C. §112, 4th paragraph as indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention.

Note further that §608.01(n) of the M.P.E.P. states:

“A dependent claims does not lack compliance with 35 U.S.C. 112, 4th paragraph, simply because there is a question as to (1) the significance of the further limitation added by the dependent claim, or (2) whether the further limitation in fact changes the scope of the dependent claim from that of the claim from which it depends. The test for a proper dependent claim under the fourth paragraph of 35 U.S.C. 112 is whether the dependent claim includes every limitation of the claim from which it depends.”

It is contended that the rejected dependent claims are in compliance with 35 U.S.C. §112, 4th paragraph insofar as they are each directed to an electronic device that includes an electroluminescence display device in accordance with the respective claim from which they depend. Accordingly, reconsideration of the claims and withdrawal of the rejection are respectfully solicited.

**E. 35 U.S.C. §102 Rejections**

Claims 1, 2, 5, 6, 17, 18, 20, 23 and 25-27 stand rejected under 35 U.S.C. §102 as allegedly anticipated by U.S. Patent No. 5,684,364 to Tang et al. (Hereinafter “Tang”), and claims 1, 2, 5, 6, 17, 18, 20, 23 and 25-27 stand rejected under 35 U.S.C. §102 as allegedly anticipated by JP Patent Publication No. 10-189252 to Hosokawa. Applicant respectfully traverses these rejections for at least the following reasons.

In accordance with independent claims 1, 2, 17 and 25, the present invention is directed generally to an electroluminescence display device comprising a plurality of pixels over a substrate, each pixel comprising a second thin film transistor comprising a gate electrode electrically connected to a first thin film transistor comprising an active layer in which two or more channel regions are connected in series.

### **Tang and Hosokawa Fail to Teach the Claimed Invention**

It is contended that Tang and Hosokawa each fail to expressly teach or inherently suggest each and every claim feature necessary to anticipate the claimed invention. In particular, Tang and Hosokawa separately fail to expressly teach a multi-gate structure, i.e., a thin film transistor characterized by an active layer having two or more channel regions connected in series, as required by independent claims 1, 2, 17 and 25.

The examiner finds that the “channel” and “impurity” regions of the claimed invention read on inherent subportions of a channel in TFT (1) of Tang (shown in Fig. 2) and a channel in transistor (21) of Hosokawa (shown in Figs. 2 and 3). Moreover, in response to the arguments presented November 21, 2001, the Examiner states that the rejected claims are not limited to a “multi-gate structure.”

Please note, however, that each of the rejected claims are directed to a “multi-gate structure” in accordance to the definition provided on page 8, lines 6-16 of the specification, which provides that a “multi-gate structure” is “a structure containing an active layer having two or more channel forming regions connected in series.” Inasmuch as Tang and Hosokawa separately fail to expressly teach or inherently suggest this “multi-gate structure,” i.e., a structure containing an active layer in which two or more channel forming regions are connected in series, they cannot anticipate the claimed invention.

Moreover, it is contended that dependent claims 5, 6, 18, 20, 23 and 24-27 are also patentably distinct over Tang and Hosokawa insofar as they incorporate by reference the feature regarding a first thin film transistor comprising an active layer in which two or more channel regions are connected in series. Accordingly, Applicant respectfully request reconsideration of the claims and withdrawal of the rejections.

**F. 35 U.S.C. §103 Rejection**

Claims 14-16, 24 and 28 stand rejected under 35 U.S.C. §103(a) as allegedly unpatentable over Tang in view of Hosokawa. Applicant respectfully traverses these rejection for at least the following reasons.

**1. Proposed Combination of References Fails to Disclose the Claimed Invention**

It is contended that the proposed combination of Tang and Hosokawa is not sufficient to establish a *prima facie* case of obviousness against the claimed invention since their combination fails to teach the features of independent claims 1, 2, 17 and 25, from which rejected claims 14-16, 24 and 28 depend. Specifically, the proposed combination of references fails to expressly teach or inherently suggest the claimed “multi-gate structure,” i.e., a structure in which at least two or more channel regions are connected in series. Insofar as the proposed combination of Tang and Hosokawa clearly fail to teach or disclose each and every feature of the claimed invention, *prima facie* obviousness of the claimed invention cannot result. Accordingly, Applicant respectfully request reconsideration of the claims and withdrawal of the rejection.

**2. Evidence of Secondary Considerations**

Applicant further contends that certain non-obvious benefits are derived from an electroluminescence display device that includes the multi-gate structure defined in accordance with the claimed invention. More particularly, the present inventors have discovered that a multi-gate structure is extremely effective in lowering a value of OFF current (See, page 8, lines 12-13 of the Specification). Therefore, providing a switching element having a sufficiently low OFF current value makes it possible to eliminate the capacitor, which causes a reduction in the effective luminescence surface area. In turn, it becomes possible to increase the effective luminescence surface area, and thus, the image quality of the electroluminescence display device can be brighter (See, page 9, lines 8-17 of the Specification).

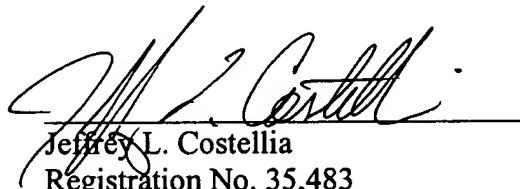
It is contended that such non-obvious advantageous results cannot be obtained from the device resulting from the proposed combination of Tang and Hosokawa since their it lacks a “multi-gate structure,” i.e., a structure in which at least two or more channel regions are

connected in series. It is respectfully contended that the foregoing evidence of secondary considerations is further indicia of the non-obviousness of the claimed invention.

**CONCLUSION**

Accordingly, Applicant respectfully submits that the pending claims are in proper condition for allowance and consideration and withdrawal of the pending rejections are requested. If the Examiner believes further discussions with Applicant's representative would be beneficial in this case, he is invited to contact the undersigned.

Respectfully submitted,



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**MARKED-UP COPY OF AMENDED CLAIMS**

14. (Amended) An electronic device comprising the electroluminescence display device according to claim 1, wherein the electronic device is at least one selected from the group consisting of a video camera, a digital camera, a goggle type display, a car navigation system, a personal computer, a mobile computer, a portable telephone, an electronic book, and an image playback device using a recording medium.

15. (Amended) An electronic device comprising the electroluminescence display device according to claim 2, wherein the electronic device is at least one selected from the group consisting of a video camera, a digital camera, a goggle type display, a car navigation system, a personal computer, a mobile computer, a portable telephone, an electronic book, and an image playback device using a recording medium.

16. (Amended) An electronic device comprising the electroluminescence display device according to claim 3, wherein the electronic device is at least one selected from the group consisting of a video camera, a digital camera, a goggle type display, a car navigation system, a personal computer, a mobile computer, a portable telephone, an electronic book, and an image playback device using a recording medium.

24. An electronic device comprising the electroluminescence display device according to claim 17, wherein the electronic device is at least one selected from the group consisting of a video camera, a digital camera, a goggle type display, a car navigation system, a personal computer, a mobile computer, a portable telephone, an electronic book, and an image playback device using a recording medium.

28. An electronic device comprising the electroluminescence display device according to claim 25, wherein the electronic device is at least one selected from the group consisting of a video camera, a digital camera, a goggle type display, a car navigation system, a

personal computer, a mobile computer, a portable telephone, an electronic book, and an image playback device using a recording medium.

32. An electronic device comprising the electroluminescence display device according to claim 29, wherein the electronic device is at least one selected from the group consisting of a video camera, a digital camera, a goggle type display, a car navigation system, a personal computer, a mobile computer, a portable telephone, an electronic book, and an image playback device using a recording medium.

37. An electronic device comprising the electroluminescence display device according to claim 33, wherein the electronic device is at least one selected from the group consisting of a video camera, a digital camera, a goggle type display, a car navigation system, a personal computer, a mobile computer, a portable telephone, an electronic book, and an image playback device using a recording medium.

40. An electronic device comprising the electroluminescence display device according to claim 38, wherein the electronic device is at least one selected from the group consisting of a video camera, a digital camera, a goggle type display, a car navigation system, a personal computer, a mobile computer, a portable telephone, an electronic book, and an image playback device using a recording medium.

43. An electronic device comprising the electroluminescence display device according to claim 41, wherein the electronic device is at least one selected from the group consisting of a video camera, a digital camera, a goggle type display, a car navigation system, a personal computer, a mobile computer, a portable telephone, an electronic book, and an image playback device using a recording medium.

48. An electronic device comprising the electroluminescence display device according to claim 44, wherein the electronic device is at least one selected from the group



consisting of a video camera, a digital camera, a goggle type display, a car navigation system, a personal computer, a mobile computer, a portable telephone, an electronic book, and an image playback device using a recording medium.

51. An electronic device comprising the electroluminescence display device according to claim 49, wherein the electronic device is at least one selected from the group consisting of a video camera, a digital camera, a goggle type display, a car navigation system, a personal computer, a mobile computer, a portable telephone, an electronic book, and an image playback device using a recording medium.